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By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions, Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Experiments;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

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TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent insertion.

The Terrible Serpent.

[The following was composed on the occasion of a monstrous snake having been one morning discovered in the wheel-house of a Boston ship, then lying in Guayaqua River.]

To the shore he crept—it was just at dark—
And he spied at anchor a gallant bark:
"I'll go on board," quoth he "for a lark,
And perhaps I may catch an elephant shark
In my waving folds and scaly hide,
And choking coils, and mouth as wide
As the whirling pool in Norway's tide."

He flattened his head to catch the gale,
And sculled from the shore with his sweeping tail,
And on the way to enliven his sail,
He wrung the neck of a hump back whale,
With his waving folds, &c.

First to the shore his prey he towed,
Then took once more to the watery road,
And he saw by a lamp which dimly glowed,
A house where he could be snugly stowed,
With his waving folds, &c.

In scenes where terror might murder hope,
The mate with danger had learnt to cope—
But the odds is plain to the dullest mope
'Twixt the bite of a snake, and the bight of a rope,
For the snake has folds—

To the round-house went that mate so bold—
His hair stood up and his eye-balls roll'd;
He rushed to the cabin, and there he told
Of putting his hand on 'something cold,'
With waving folds—

The captain and crew were now in a fright,
They fastened their doors all snug and tight,
And they prayed awhile with main and might
That the snake might paddle ashore in the night
With his waving folds—

But quite in vain was the midnight prayer—
The serpent heard but did not care,—
"That I should prey, too, is no more than fair,"
And when morniug came he still was there,
With his waving folds—

The captain fired his pisiols two,
But he found that small-arms would not do—
So he called to his aid his gallant crew,
Who soon with a boat-hook pinned him thro',
In spite of his folds—

Some inches into the deck, 'tis said,
They drove the hook, which was through his head—
But when they thought to have found him dead,
He was walking the deck with an easy tread,
With his folds of pride and scale hide—

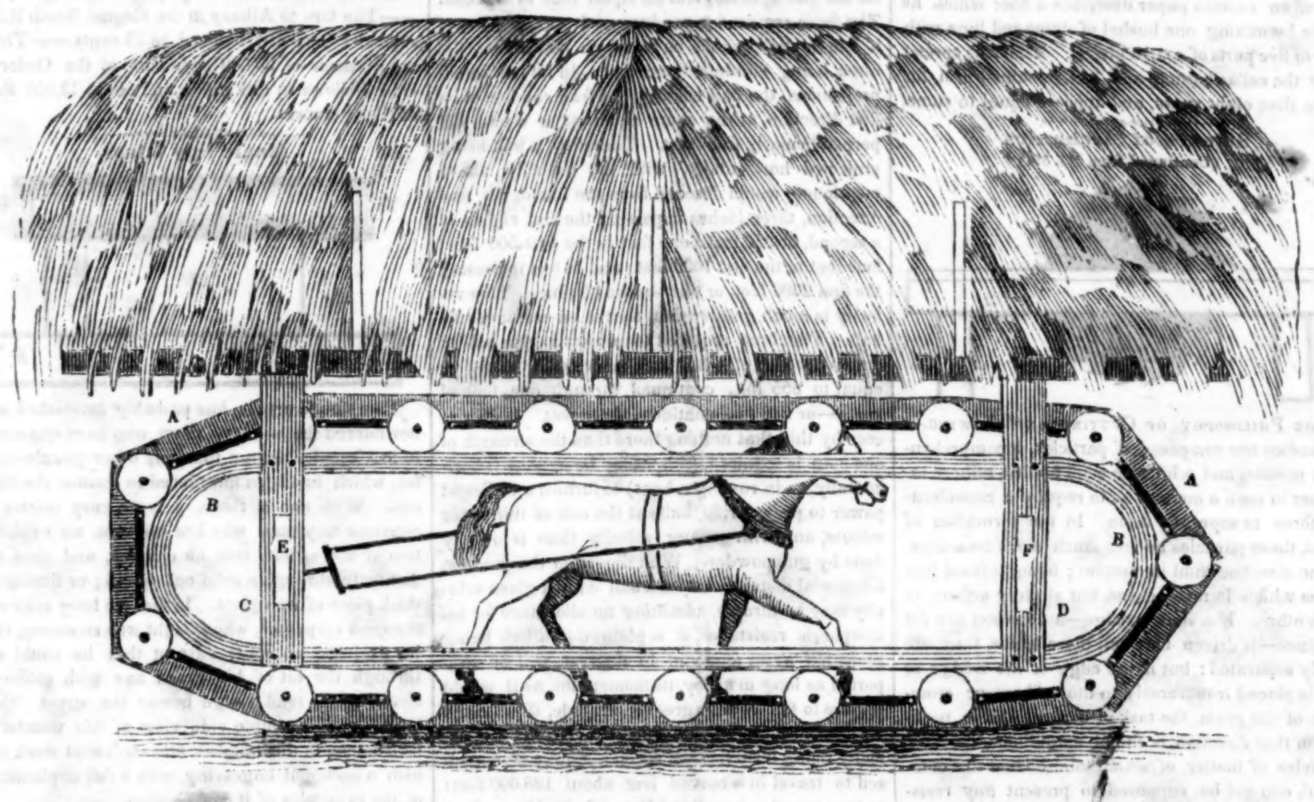
The crew condemned their sight, and swore
If they augured right, this snake was a bore,
Which would prove to have nine lives or more,
Then they fell to banging him aft and fore,
On his waving folds—

When one is vanquished before a host,
Oh, small is the triumph which they can boast;
"I'll drive you in dreams from pillar to post,"
Said the snake, and then departed the ghost
From his waving folds—

The Sailor and the Coachman.

A story is told, though 'tis not new,—
Better ones there are but few,—
Of a sailor who had got his pay,
And riding in a hack one day,
He chanced a fellow tar to see:
And springing forward, full of glee,
He knew not how to move the sash,
So with his fist he gave a dash,
Hailing his man; the driver stopped,
Quickly from his box he hopped;
Op'ning the door he said to Jack,
"Sir, did I hear my window crack?"
"I guess you did, I smashed one through,
For which just tell us what is due;"
True sailor-like, prompt and willing
To "square the yards" while he'd a shilling;
"I'll charge a dollar, sir, to you."
"All right, my covey; here's a two."
"Can't make change," the coach [illegible] said.
Then thoughtfully Jack scratched his head
" [illegible]n't you? well then I can," he cried,
[illegible] *turning smashed the other side!*

HORSE-POWER FOR MARSHES.



INTRODUCTION.—There are, in this country, millions of acres of fertile marshes, the soil of which is too soft and miry to admit of the use of horses or oxen, in cutting ditches or transporting the hay cut thereon. Several well constructed ditching machines have been invented, for the draining of marshes, but they could not be hitherto used, where most wanted, for the reason above mentioned; and it is a general practice, when the grass is mown, to carry it by hand to the firm land on the borders, or collect it in stacks and leave it till winter, when the marsh is hardened by frost. But by the machine here introduced, one, two, or four horses may be employed in navigating the softest marshes, hauling a ditching plow, or transporting hay.

EXPLANATION.—A simple side view, or longitudinal elevation of the machine is shown in the engraving. It consists principally of an endless floor, composed of wide planks connected together by hinge joints. To the ends of these planks are attached cleats, A A, and iron straps are attached to the cleats, extending across the breadth of the plank, and each strap is perforated at each end by a round hole, through which an iron rod passes horizontally; and these rods constitute, at the same time, the pivot of the hinge joints and the axles of a set of wheels. A series of these wheels being thus connected to each side of the endless floor, play freely over a pair of endless rails, B B, to each of which are attached two upright posts, C D, and each post is connected to its opposite by a cross-bar or beam, the tenons of which appear at E F. The horse or horses being placed on the lower part of the endless floor, are harnessed to the cross-bar E, and being put to the draught, the machine is moved forward with very little friction, the bottom planks resting on the ground and forming an excellent horse-walk, while those above are passing forward. An ordinary hay rack is occasionally placed on the heads of the four posts, for the conveyance of hay or other produce, and if a ditching plow is connected by chains to the posts, C, it will be drawn or propelled with as much force as it would be by the regular draught of the same team otherwise attached. The only inconvenience attending the use of this machine, consists in occasionally turning, or changing its direction; but this is effected without difficulty by means of a small circular platform which is carried on board, and is occasionally placed on the ground in front, and the machine being passed partly over it, is easily turned round, or headed in any direction by the attendant. The cost of a machine for one horse, is about $50.

THE WHOLE OF OREGON.—At the dinner of the St. George's Society, lately, in this city. Mr. Barclay, the British Consul, in the course of his remarks, said,—

All of Oregon is not worth half the loss, which the apprehension of war respecting it has already produced. Were I not afraid of becoming tedious, I might, from personal experience, give you some idea of the value, or the valuelessness, [if I might use that word] of the country beyond Lake Huron. [Go on.] Then you must pardon the appearance of egotism. Gentlemen,—it was my honorable task, after years of exposed service, about the upper great lakes and beyond them, to superintend the establishment of the now much talked of 49th parallel of north latitude, at the Lake of the Woods, in the year 1825, and there to erect a monument. I tell you, as a fact, that for the distance of one thousand miles before I reached that point,—though I visited numerous posts and forts, as they are called, of the fur traders, between the months of May and October, which are the most favorable to vegetation,—I never could obtain one single vegetable—a potato, carrot, turnip, or even a salad—to check the stringent thirst which our salted meat produced, or to allay the apprehension of scurvy. I leave it for you to imagine what luxuries are to be expected by going further.

SLANDER.—It is a poor soul that cannot bear slander. No decent man can get along without it—at least none who are engaged in the business pursuits of life. Have you had a bad fellow in your employment, and discharged him,—he goes round and slanders you; refuse another some modest boon which he has asked, he goes round and slanders you; let your conduct be such as to create the envy of another, he goes round and slanders you. In fine, we would not give a cent for a person who is not slandered; he is either a milksop or a fool. No—no—earn a bad name by a bad fellow, (and you can easily do so by correct conduct,) it is the only way to prove you are entitled to a good one.

SPELLING.—The Lafayette Statesmen says:—If the name of any other town in these United States can be spelt in as many different methods as the following, all wrong, yet bearing a sound sufficiently accurate to designate the place, we knock under. The list is furnished by our worthy postmaster, and the letters are in the office to confirm its accuracy:

Lafiette, Lafayette, Lafayatte, Lafayett, Lafyate, Lafyett, Layfette, Lafate, Layfayet, Layfayette, Lefeyette, Laffayette, Nafayte, Lafaette, Layfette, Lafyeet, Lefeat, Lafyett, Lafaet, Laphaite, Lafaat, Lafeyette, Lafiette, Lafeyate, Lafayat, Lafyate, Lafeate, Lafaette, Lafeyitte, Lafiet, Layphate, Laffayette.

CURIOUS PROPERTIES OF THE FIGURE NINE.—To our mechanical friends who take an interest in figures and mathematical problems, the following properties of the figure 9 may be interesting and perhaps curious. It may afford amusement for a leisure hour to perform the operation for themselves. If nothing more it will be good exercise for the calculating mind.

Multiply 9 by itself, or by any other of the digits, and the figures of the product added together will amount to 9. The component figures of the amount of the multipliers, (viz. 45) when added together make 9.

The amount of the several products or multipliers of 9, (405) when divided by 9, gives a quotient of 45; and the component figures of either dividend or quotient makes 9.

Multiply any row of figures either by 9, or any one of the products of 9, multiplied by one of the digits, as by 18, 27, 36, 45, 54, 63, 72, 81, and the sum of the figures of the product added together, will be divisable by 9.

Multiply the 9 digits in the following order: 1, 2, 3, 4, 5, 6, 7, 8, 9, by nine, or by any other of the products of nine mentioned in the last paragraph, and the product will come out all in one figure, except the place of tens, which will be an 0, and that figure will be the one which multiplied into 9, supplies the multiplier; that is, if you select 9 as the multiplier, the product will be (except the place of tens) all ones; if you select 18, all twos, and so on. Omit the 8 in the multiplicand, and the 0 will also vanish from the product, leaving it all ones, twos, threes, &c., as the case may be.

A CALIFORNIA FARMER.—A gentleman writing from California to the editor of the St. Louis Reveille, says his stock consists of about 4000 head of oxen, 1700 horses and mules, 3000 sheep, and as many hogs. They all pasture themselves without difficulty in the rich prairies and bottoms of Sacramento, and only require to be attended. This is done by Indians, of whom he employs 400. His annual crop of wheat is about 12,000 bushels, with barley, peas, beans, etc, in proportion.

A NOBLE DOG.—The Alexandria Gazette says:—Last week a little boy playing near the Canal Basin, accidentally fell in. A fine Newfoundland dog; belonging to a gentleman in this place, standing by, plunged in, on the instant, and seizing the child, brought him safely to the shore.

THE CUMBERLAND ROAD.—The length of this great national highway is 590 miles. It runs through Maryland, 33 miles; Pennsylvania, 81: Virginia, 14; Ohio, 224; Indiana, 148, and Illinois, 90 miles.

A MONEY DIGGER.—An inquisitive Yankee, seeing a laborer employed in digging on a retired spot on the east side of the river, inquired what he was digging for. I am digging for money! The fact, of course, was duly and promptly heralded to the curious in such matters, and the money digger was visited by three or four credulous fellows, when the following dialogued ensued:

Visitors.—We are told you are digging for money?

Laborer.—Well, I aint digging for any thing else, and if you are wise you had better take hold also.

V.—Have you had any luck?
L.—First rate luck. It pays well.
V.—When did you get any money last?
L.—Saturday night.
V.—How much?
L.—Four dollars and a half.
V.—That's rather small business.
L.—It's pretty well: six shillings a day is *the regular price for digging cellars all over town!*

The visiting loafers vanished, quite put out with the man who dug money at the rate of six shillings a day!

THE OLDEST BIBLE.—Mr. Joseph J. Mickley, of Philadelphia—who has many rare old books—owns a German Bible, that was printed at Nuremberg, by John Sensenschmidt and Andrew Frissner, in 1475. The book is a splendid folio, once owned by the Duke of Sussex. It is a perfect copy, beautifully printed, with rich illuminations, wrought with the pen and brush, and although but thirty-five years after the discovery of printing, is the *fourth* edition.

QUERY.—Two gentlemen have each a daughter, each marries the daughter of the other, if children arise from the union on both sides, what relation do the children bear to each other?

DOES HE WANT IT VERY MUCH?—A Mechanic went to the house of a farmer to buy some wheat, and enquired the price. "Do you want it very much?" enquired an honest negro who had the charge of the granery, "cause massa say if you want it very much, the price is dollar and half; but if you don't want it none at all amost, you may have it for a dollar,"

"Please to tell me the time of day?" said a little boy entering a grocery. "Twelve o'clock," answered the grocer. The boy immediately returned and repeated the same question. "Did'nt I just now tell you it was twelve o'clock?" said the man. "Yes sir," replied the boy, "but that was for mother, and this is for another woman."

Jokes and Quaintisms.

Not having as yet received the reported catalogues of American Patents, and having found accumulated in our Joke-trap a considerable quantity of drolleries, most of them pretty well worn, we have concluded to dispose of a few of them by packing them in this column. Hope they'll not make any one laugh.

'You may take your seat, sir,' said a schoolmaster to a pupil whom he had examined in arithmetic; 'and you may take your'n,' replied the scholar, 'for it is a poor rule that won't work both ways.'

Somebody once remarked, that an Englishman is never happy but when he is miserable; the Scotchman is never at home but when he is abroad; and the Irishman is never at peace but when he is fighting.

During a heavy fall of rain, a fellow who had taken a drop too much, happened to deposite himself underneath a waterspout. He thus, laying alone in his glory, ever and anon exclaimed—'Not a drop more, gentlemen—not a drop more.'

Somebody says that auctioneers are wonderful strong men, as they will sometimes *knock down* the largest brick or stone buildings with a single blow of the hammer.

'Am I not a little *pale?*' inquired a lady who was rather short and corpulent, of a crusty old bachelor. 'You look more like a big *tub!*' was the blunt rejoinder.

'Did you present your account to the defendant?' inquired a lawyer of a client. 'I did, your honor.' 'And what did he say?' 'He told me to go to the devil.' 'And what did you do then?' 'Why then I came to you.'

Two countrymen, who were sleeping together at one of our hotels, being alarmed by the cry of fire in the streets, sprang out of bed, ond both seized the same pantaloons, into which each thrust a leg, and ran into the street, *a la Siamese Twins.*

'I wish you a happy April fool, ladies,' said a young buck, who thought to say something smart on the 1st of April. 'Thank you, sir; your kind wishes are realised already,' was the significant reply.

'Father, are there any liars among Christians?' 'Certainly not, my son; why do you ask?' 'Because uncle John spoke of having several *Christians Lyres*, in his church.'

Somebody says:—We like to see a young lady walk as though a flea was biting her on each hip: it is so fascinating. She is just the match for the dandy, who steps like an open-winged turkey, travelling over a bed of hot ashes.

'Landlord,' said a dandy, who was sporting a new pair of grhen spectacles, 'how do these become me? Don't you think they improve my appearance?'—'Certainly,' replied the landlord, 'they conceal a *part* of your face.'

A culprit being asked what he had to say why sentence of death should not be recorded against him, replied: 'I have nothing to say, as too much has been said about it already.'

A gentleman was accosted by a poor loafer, who asked for charity. 'I will remember next time,' replied the gentleman. 'Please your honor,' said the loafer, 'I don't credit; I deal on the cash principle.'

An Irishman said the first feathered fowl he shot in America was a *forkentine*, he treed him on a *white-oak hemlock stump*, and *fired* six times before his gun *went off*, and then he came tumbling *up the tree.*

The hardest fare I ever experienced, said an old codger, was the time when I got lost in the woods. I slept on a rock, and cracked butternuts with my teeth for a living. Them was hard times.

'That scandalous scoundrel has utterly ruined my character,' complained Count Tracy, to Foote. 'That's all in your favor, replied the wag, 'for it was so very bad that the sooner it was destroyed the better for you.'

'That's what I call a real *finished* sermon,' remarked a man as he was coming out of church.—'Yes, *finished* at last,' replied his neighbor, 'tho' I began to think it never would be.'

'I'll handle your witness without gloves,' said one lawyer to another. 'That you may do with safety, but it is more than I would venture to do with yours,' was the reply.

'Why do you not admire my daughter?' said a lady to a doctor. 'Because,' said he, 'I am no judge of *painting*.' 'But surely,' said the lady, not the least disconcerted by this rude reflection, 'you never saw an angel that was *not* painted.'

A cabinet maker having made a table for a customer, who did not come after it for several years, thus addressed him when at last he applied for it. 'Sir, you are the most *un-com-for-table* customer I have ever had!'

An Irish gentleman thus addressed an indolent servant who indulged himself in bed at a late hour in the morning: '*Fall* to *rising*, you spalpeen, *fall* to *rising*. Don't *stand* there *lying* in bed all day.'

It looks rather ominous, when a young man is followed by his neighbor's dog. He must be at least an occasional visitor; perhaps, to speak more gallantly, he is particularly acquainted. Who let that cat out of the bag.

Drawings of machinery, engraving on wood, and lithographic drawings, neatly executed, at the lowest prices, at this office.

To Correspondents.—Those obliging correspondents, who have omitted to mention their places of residence, and on whose letters the post mark is illegible, must be content to wait for an answer till we hear from them again.

Post Masters—Who receive this paper, will confer a special favor by mentioning the subject occasionally to scientific mechanics.

Exciting News FROM THE SEAT OF WAR.

Capt. Griffin and passengers, of the schooner Mary Clare, which arrived at New Orleans on the 9th inst., from Brazos Santiago, report that Capt. Walker and 70 rangers were nearly all killed or taken prisoners on the 28th ult., about 20 miles above Point Isabel, by a large force of Mexicans. Capt. Walker had started from his camp on the 28th with his whole force to reconoitre, and if possible, to open a communication with Gen. Taylor; and having proceeded about half way to the camp, he was suddenly assailed by an overwhelming Mexican force, and a part of his troops being raw recruits soon fell into disorder and he was compelled to retire, tho' not till his party had brought nearly thirty of the Mexicans to the ground. He succeeded in reaching the Point at 4 P. M., with only three men. Six others subsequently came in. He estimates the Mexican force at 1500 men, supposed to be a portion of the Mexican army which had, at last accounts, crossed the Rio Grande, some 20 or 30 miles above Matamoras. There are now about 5000 Mexicans on the American side of the Rio Grande, one half above and one half below Gen. Taylor's camp.

STILL LATER FROM THE ARMY.

The steamer New York arrived at New Orleans on the 10th, bringing despatches direct from Point Isabelle. From New Orleans, the news was forwarded by express to Mobile, whence it was brought by mail. The various reports are so crooked it is difficult to make a straight story out of them; but it appears that the gallant Capt. Walker, not discouraged by his first defeat, had succeeded in reaching the camp of Gen. Taylor, though with the loss of six men; he returned to Point Isabelle on the evening of the 5th. On the morning of that day, the Mexicans opened a heavy canonade on the American entrenchments, which was gallantly returned by the U. S. troops, commanded by Maj. Ringold. The report says that the Mexican batteries were silenced in 30 minutes:—that 700 Mexicans were left dead on the field, and that the city of Matamoras was utterly destroyed, while only one man was killed on the American side. When the New York left Point Isabelle, a heavy cannonading was heard in the direction of Matamoras, which was supposed to be an attack of the Mexican forces—estimated at 15000—on the Camp of Gen. Taylor. One thing is certain,—the war has commenced in earnest on both sides; and those who have been for a long time so full of war and thunder, in Texas and the other Western States, may now have a tolerable opportunity of venting their fury and showing their courage. And now that the war cannot be avoided, it is confidently expected and required by all parties that our government, not having the plea of any want of unanimity in the cause, should push it forward with energy, and thus bring it to a speedy termination.

Flight of Birds.—It has been calculated by some, that a hawk can fly 150 miles per hour; but this calculation is evidently erroneous, even admitting he has a fresh gale of wind in his favor. Seventy-five miles per hour is as great a velocity as reason or authentic reports of observation, would allow us to give him. The flight of an eider duck, which is probably the most rapid on the wing of any large bird, has been known to be 90 miles per hour; but it is known also, that this, like all aquatic birds, when journeying, generally take advantage of the direction of the wind. The flight of a crow is seldom known to exceed 20 miles per hour. The flight of the swallow is rapid, and is said to have exceeded 90 miles, yet the little humming bird will readily outstrip all others in short races, although its flight is not sufficiently regular to admit of accurate observation.

The Problem in our last Number.—As we expected, our readers have found it no easy matter to give a correct answer. The only one received is from L. E. D., of this city. The answer, however, to this or any similar proposition may be found, by taking one ounce for the smallest fragment (of the broken stone) and multiply this by 3 for the second piece, and that by 3 for the third, &c.: thus, 1 oz., 3 oz., 9 oz., 27 oz., or 1 lb. 11 oz., 5 lb. 1 oz., 15 lb. 3 oz., 45 lb. 9 oz., and 136 lbs. 11 oz. In all 205 lbs. For this problem and answer, we are indebted to Mr. C. C. P., Manchester, N. H.

Force of Habit.—A laughable anecdote is reated of the celebrated artist Sir Joshua Reynolds, who during his tuition was instructed, and invariably accustomed to paint all his portraits of gentlemen, with the hat under one arm. Having to paint the likeness of a gentleman who insisted on his hat being placed where he was used to carry it—upon his head—Reynolds demurred at so unusual a demand; but his employer was resolute; and he was forced to comply. The portrait was painted accordingly, with the hat on the wearer's head, but when the picture was sent home, there was discovered, to the amazement of all parties, another hat, in the old place, under the arm.

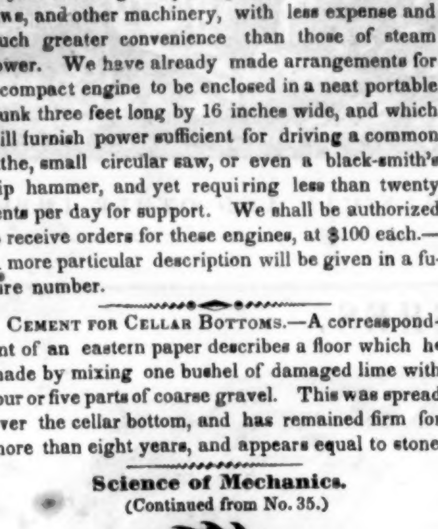
New Inventions.

We have received from Mr. L. A. Gouch, of Springfield, Mass., a very ingenious mode of connecting several pairs of brakes in a manner to apply to all the wheels of a train of cars at the same time and without any additional exertion on the part of the brakeman. We shall give a full description with an engraving in (probably) our next number.

Electro-magnetic Engine.—We have heretofore described what then appeared to be the best mode of applying electricity to the production of available power: but we have more recently been made acquainted with a different application, which is far in advance of any invention hitherto introduced for that purpose, and may evidently be employed advantageously as a power for driving lathes, saws, and other machinery, with less expense and much greater convenience than those of steam power. We have already made arrangements for a compact engine to be enclosed in a neat portable trunk three feet long by 16 inches wide, and which will furnish power sufficient for driving a common lathe, small circular saw, or even a black-smith's trip hammer, and yet requiring less than twenty cents per day for support. We shall be authorized to receive orders for these engines, at $100 each.—A more particular description will be given in a future number.

Cement for Cellar Bottoms.—A correspondent of an eastern paper describes a floor which he made by mixing one bushel of damaged lime with four or five parts of coarse gravel. This was spread over the cellar bottom, and has remained firm for more than eight years, and appears equal to stone.

Science of Mechanics.
(Continued from No. 35.)



The Philosophy of Cutting and Sawing.—All bodies are composed of particles, incomprehensibly minute, and which, in solid bodies, adhere together in such a manner as to require a considerable force to seperate them. In the formation of wood, these particles adhere much more tenacious in one direction than in another; being formed into fibres which in most cases, but slightly adhere to each other. If a sharp wedge—a common axe for instance—is driven between these fibres, they are easily separated: but if the edge of the wedge or axe is placed transversely to those fibres, or crosswise of the grain, the task of separating the particles in that direction is found more difficult. The particles of matter, of which solid bodies are composed, can not be supposed to present any resistance to a perfectly sharp edge of tempered steel, except by their adhesion to each other: yet this adhesion is so great in some bodies, as to resist and turn the edge of steel, sooner than separate or recede. The particles of which wood is formed, are easily separated by a sharp edge, insomuch that a log ten inches in diameter may be cut square off by a pressure of less than ten pounds: but this must be at a point so near the end of the log, that each fibre of the wood will recede, and thus cease to present any resistance after being cut off. But when the edge of a cutting instrument is placed across the log at a distance from either end, and forced down, the principal resistance will proceed from the ends of the fibres, after having been separated, rather than from those in immediate contact with the edge of the instrument. On this account, wood is cut more readily by a thin blade, than by a thick one. But when the edge of a cutting instrument, is made to move in the direction of the surface, whether of wood or metallic bodies, and so governed as to cut so near the surface, that the small quantity separated may readily recede, the resistance is comparatively trifling. Even cold iron may be readily cut into any shape by this method. It is on this principle, that the saw has become extensively useful; each tooth in its turn, takes off a small quantity with but little resistance, although the teeth of saws in general, are not well adapted to the purpose of cutting, and the fibres are merely broken off by them. Let the teeth of a circular saw, for the purpose of splitting, or sawing lengthwise of the timber, be made to cut on the principle of a chissel; each tooth being not only bent forward as represented in the cut at the head of this article, but made thicker at the point than in other parts, so as to present a chissel edge, and the saw will cut thrice as fast in proportion to the power applied as the common saw. Saws with hook-teeth have been sometime in use, but not with chissel-teeth, tempered points, and fine cutting edge, although sharp edges, are as essential in saws, as in chissels. A saw of this construction, mounted on a simple crank shaft to be turned by hand for the purpose of slitting planks and boards, will cut as rapidly as an ordinary saw driven by a horse-power. Every carpenter might derive much advantage from a nicely adjusted saw, mounted in this simple style, for slitting pine boards and planks, instead of using the vibrating handsaw.

(To be continued.)

A Fortunate War.—It is a consolation to know that the ruinous Sub Treasury Bill in Congress, is virtually killed by the occurrence of the Mexican war; and it is not to be expected that the expense of the war will be equal to what the injurious effects of that bill would have been if it had become a law.

A Quaint Idea.—The Worcester (Mass.) Cataract reccommends that those churches which discard their ministers for preaching temperance sermons, should be furnished with a rum hogshead for a pulpit, and a dram-drinking divine inside, preaching to the congregation *through the bung-hole.*

Laws of Projection.

Rules of Calculation.—Any person may readily calculate the power, or exertion of force required to project a ball, or other object, to any required distance, vertically, by multiplying the distance by the weight of the ball: for if a force equal to one hundred pounds, be applied to a ball weighing but one lb., and the application of this force is continued one foot, the ball will be thrown 100 feet high, if in vacuum; but in atmospheric air, some allowance must be made for atmospheric resistance. The velocity required to produce a given extent of vertical projection, may be calculated, by taking into view the velocity which would be acquired in descending or falling an equal distance. A heavy ball will fall 16 feet in one second, and the velocity acquired in the descent, is equal to 32 feet per second. Therefore, if a vertical motion equal to 32 feet per second be produced in a ball, however short may be the application of force the ball will be projected to the height of 16 feet. A ball will descend four times this distance, or 64 feet, in two seconds of time; yet the velocity acquired is only double, or equal to 64 feet per second. Therefore, if a ball be projected upward, with a velocity equal to 2000 feet per second, it will ascend 65,500 feet; and its ascent will occupy 64 seconds, (making no allowance for the atmosphere,) and an equal time to descend. The force required to produce such a projection, of a one lb. ball, would be equal to 65,500 lbs., the force being continued one foot. In all horizontal projections. the ball will descend from the line of its first direction, at the same rate that it would fall perpendicularly from rest. Therefore, a ball being projected horizontally, with the velocity above mentioned, would descend from the line of the first direction, three inches in passing the first eighth of a second, or 250 feet: one foot in the first 500 feet; four feet in the first 1000 feet; and 16 feet in passing the first 2000 feet, or one second of time. This velocity is much greater than that of an ordinary rifle ball. The force required to project a rifle ball of one-hundredth of a lb.; with this velocity would be equal to 655 lbs., continued through one foot of space—or 218 lbs., continued three feet. It will be seen by this, that nothing more than the strength of one man is required, (admitting be applies it horizontally, as in rowing a boat) to furnish a sufficient power to project rifle balls at the rate of thirty per minute, and with greater velocity than is usually done by gun powder. With regard to the greatest horizontal distance which a ball with a given velocity may be thrown, admitting no allowance for atmospheric resistance, it is plain that a ball being projected at an angle of 45 degrees, will be supported as long in air by its momentum, as it would require to fall from its greatest altitude, if projected vertically with equal velocity Then the velocity being 2000 feet per second, it may be supposed to travel in a curved line, about 128,000 feet: or twenty miles in a direct line. A double application of force, will project to double the distance; and there is no point in theory, more evident, than the practicability of projecting balls to the distance of 50 miles; 100 miles, or 500 miles, by means which are already within our control; but for long projections, the missile should be made in the form of the revoloidal spindle, which will encounter less than 1-500th part of the atmospheric resistance, that would be encountered by a round ball.

Mouslin de Laines.—But few people are probably aware of the extent to which this article is manufactured in this country. It is only about three years since this branch of manufacture was commenced in America, and even now, the article is supposed by many to be altogether imported. But the fact is, that the richest and best mouslin de laines in the market, are from the manufactories of Massachusetts and New Hampshire. The Print Works at Taunton, Mass., turn out about 38,000 yards per week; and about the same quantity is manufactured at the Ballard Vale, in Andover. A large mill at Manchester, N. H., one at Hookset and two at Southbridge Mass., are also employed in this branch. The quantity manufactured by the several mills in New England, cannot fall much short of 200,000 yards per week. It is very gratifying to see this fabric afforded at such prices as to admit of its entirely superseding calicoes in the winter season, especially on account of its being so much safer with regard to taking fire, as well as being more comfortable and healthy.

Manufactures in Georgia.—Messrs Cooper & Stroup, of Cass Co. Georgia, in a communication to the Southern Cultivator, state that they are blowing two good furnaces with a capacity of six to seven tons of metal per day;—make all kinds of geering for cotton mills, flour mills, saw mills, cotton gins, and horse-power turning machines;—casting all kinds of hollow ware which they are selling at 3 1-4 to 4 1-2 cents; and are also making about half a ton of maleable iron per day. They have also a flour mill in operation, and are building another; and preparing to start a rolling mill in a few months. We are glad to hear of such enterprise at the south, as it naturally tends to the dissemination of intelligence and liberal principles; and by assimilation of interests in various sections, the bonds of the American Union will be strengthened.

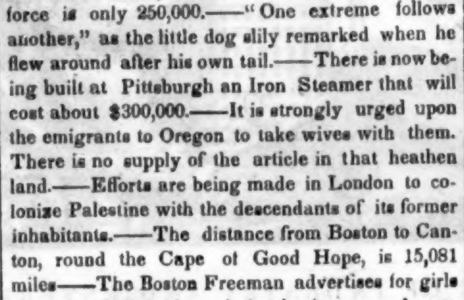
Improvement of the Merrimack.—A new steamboat is prepared to run on the Merrimack river, from Newburyport to Haverhill, Mass., and it is contemplated to make such improvement on the river, as to enable the boat to extend its trips to the new city at Methuen. One dam of moderate elevation and one lock are only required, and the water-power thus secured, will amply repay the expense, to say nothing of the value of the extended navigation. It is unaccountable that this river below Lowell, has been so long neglected.

Several articles explanatory of arts and trades are deferred to make room for the war news.

Jumble.

The corn wasted in England in brewing and distilling would feed three millions of persons every year.——It is honorable to the United States, that President Polk furnishes at his levees nothing that intoxicates.——It is computed that ten millions of francs are paid yearly in Paris for flowers.——Cheap cotton cloth coated with tar, turpentine and lime, is coming into use, in preference to shingles for covering roofs of houses.——The bill for the abolition of capital punishment, has been rejected in the Massachusetts Senate, by a vote of 17 yeas to 19 nays.——The present peace establishment of the Austrian army is 369,000 men, but the effective force is only 250,000.——"One extreme follows another," as the little dog slily remarked when he flew around after his own tail.——There is now being built at Pittsburgh an Iron Steamer that will cost about $300,000.——It is strongly urged upon the emigrants to Oregon to take wives with them. There is no supply of the article in that heathen land.——Efforts are being made in London to colonize Palestine with the descendants of its former inhabitants.——The distance from Boston to Canton, round the Cape of Good Hope, is 15,081 miles——The Boston Freeman advertises for girls as apprentices to the printing business.——A protest against American slavery has been sent forth to the world signed by 304 clergymen of the Universalist persuasion.——The quantity of ice exported from Boston for the month of February was 3014 tons, and for the past nine months 25,839.——The fare to Albany in the elegant North River steamers has been reduced to 25 cents.——There are upwards of 30,000 members of the Order of Odd Fellows in this State, and about 12,000 Sons of Temperance.

Magic Spy Glass.



This simple article has probably astonished and bewildered the minds of those who have examined it, to a greater degree than any other puzzle-ometer, which has been introduced to amuse the curious. With one of these, it is an easy matter to convince any man who has not seen an explanation of the article, that he can see, and *does* see distinctly through a solid oak board; or through a thick piece of iron plate. In fact we have seen one man,—a carpenter, whose sight was so strong, that he declared in sober earnest that he could see through the bit of his broad axe with sufficient clearness to read a sign across the street. We have given a simple side view of this wonderful instrument in this number, and shall next week furnish a sectional engraving, with a full explanation of the principles of it construction.

Explanation of the Cut.—A hollow mahogany cylindric stock or tube A, B, about ten inches long, and two inches in diameter, and finished with ferules on the ends like a common spy glass, has several glasses fixed inside, through which a person may view any object towards which he looks through them. This tube is sawed off in two places near G, so that the part G. may be removed, leaving the other two parts in their places, they being supported by two square posts C, D, which are tenoned into a piece of plank E, F, below, for the purpose of holding the two detached parts of the stock in place. Now the centre part G, being removed, a board, plank, or metallic plate may be inserted between the parts A, B, and yet does not impede the sight of the persons looking through the tube; but he can see any object distinctly through the board, &c.

Mock Auctions.—Any one who has frequently perused the city dailies, within the last few months must have seen frequent reports of the swindling operations, practiced by pretended auctioneers, who having found plenty of gullibles, have multiplied and enlarged their business astonishingly for a year past. One of the methods practiced by them, is to collect a company of Peter Funks, who often bid but never buy, display a lot of tolerable fair goods, embracing a variety of watches, chains, spoons and jewelry, and set up an outcry of "have you all done at seven cents? going, &c." and whenever they can attract a stranger to the door, the Peters begin to bid 8 cents, 9 cents, 11 cents—"Only 11 cents a piece for the lot, going," cries the auctioneer; and if the stranger can be induced to bid 12 cents a piece on articles evidently worth 50 or 75 cents, the lot is knocked down to him, and he is called into the back room, when, instead of having bought a dozen articles as he supposed, he is told that the lot consists of some three or four hundred articles, amounting to 40 or 50 dollars, altho' it is plain that nine tenths of the articles are worth less than one cent each. If he attempts to recede, he is bullied, and usually compelled to "fork over," or pay what money he has about him, and leave the goods as security for the balance, and glad to get off at that.

Utility of an Old Coat.—A man in Pittsburg in passing some machinery in a rolling mill, had the skirt of his coat caught between two huge rollers, and had the coat been new he would have been quickly ground over, and made to feel very *flat*; but the coat being old and decayed, it parted and released the wearer.

A Mutual Blank.—Two neighbors who lived near each other, each subscribed for a newspaper at about the same time, and each without the knowledge of the other. In a short time it became known to each that the other was taking the same paper, and each made up his mind to discontinue the paper himself and occasionally borrow that of his neighbor. The next discovery was that neither had any paper to lend or read.

VARIETY

A late attorney, about to address a jury who were favoring their sitting postures by an elevation of their feet over the railing, enquired of the court *which end of the jury* he should address?

A writer in the Cincinnati Gazette expresses the opinion that the Western side of the Mississippi opposite the mouth of the Ohio is one of the best situations for manufacturing business in the world.

Excellent Daguerreotype Portraits may be obtained at Prosch's Daguerrian Gallery, 179 (late 112,) Broadway, for one dollar each—equal to the best three dollar specimens.

In the single county of Mercer, in Pennsylvania, there are now erecting fourteen new iron furnaces, and 1000 miners are wanted in the iron and coal business.

News purporting to be one day later from Point Isabelle, has been received, but the different accounts are so contradictory, that little, confidence can be placed in them.

Five barns belonging to John Gibson Esq., in Francistown N. H. were all struck by lightning during a recent thunder storm, and consumed. The circumstance is very remarkable.

The population of Manchester N. H., has increased within the last six years, from 3,225 to 10,125. Twenty years ago, there was not even a village at the place.

Gen. Santa Ana has not returned to Mexico, but remains at Havana, devoting himself to amusements, apparently quite unconcerned about what is going on in other parts of the world.

Gen. Paredes has issued a proclamation of war with the United States, and sent off Gen. Almonte to France and England with the said proclamation. We shall soon learn the result.

The President of New Grenada has very rationally expressed, in strong term, his opposition to allowing *Europeans* to construct a canal from the Atlantic to the Pacific ocean.

Society is like a glass of ale—the dregs go to the bottom, the froth and scum to the surface, and the substance, or the better portion, remains about the centre. So says somebody.

Mr. James Porter, the Kentucky giant, has been elected to the Council from the 8th Ward of Louisville. The citizens may expect some tall measures to be introduced.

It is computed that the number of passengers who pass up and down the Hudson River, is not less than 1,000,000 per annum. They will probably exceed that number the present year.

Two barns have lately been burnt in Concord, N. H., by the spontaneous combustion of a quantity of oily cotton waste, which had been carelessly left in them. Oily cotton is dangerous.

A dog of the Rocky Mountain breed, seeing his master step into the cars ten miles from Baltimore, followed so closely as to come into the city only a minute behind the train.

A broom-stick, supposed to have been ridden by one of the Salem witches, has lately been picked up, and is considered a valuable relic of the olden time.

A deputy, condemned to death at Lyons, had attempted to take his own life by stabbing. A surgeon being called he was pronounced out of danger, and ready for the gallows to-morrow!

A person having sold a horse to an Irishman, a few months afterward asked him how his horse *answered.* "Indade," replied Pat, "I cannot tell, for I never thought of putting a *question* to him."

Hon. Abbot Lawrence of Boston has refused to rent any of his houses or stores to any person, for the purpose of selling intoxicating liquors therein. An excellent example.

Several shoemakers from Danvers, Mass., have recently gone to England, for the purpose of manufacturing pegged boots and shoes. The art is not known in England.

Versailles bonnetts have been introduced in Philadelphia. The fabric is woven of glass upon silk, and they present it is said an exceedingly chaste and lustrous appearance.

Patriotism runs high among the journeyman printers of New Orleans. So many of them have volunteered for the war that it is feared there will not be enough left to get out the papers.

The amount of wages paid by the manufacturing companies of Lowell, is $177,600 per month;—about $6,000 per day. Many of the operatives are becoming rich.

A duel recently occurred in Pennsylvania between Gen. Armour and Col. Noble. The result was that the latter was instantly killed, and the former was arrested and put in jail.

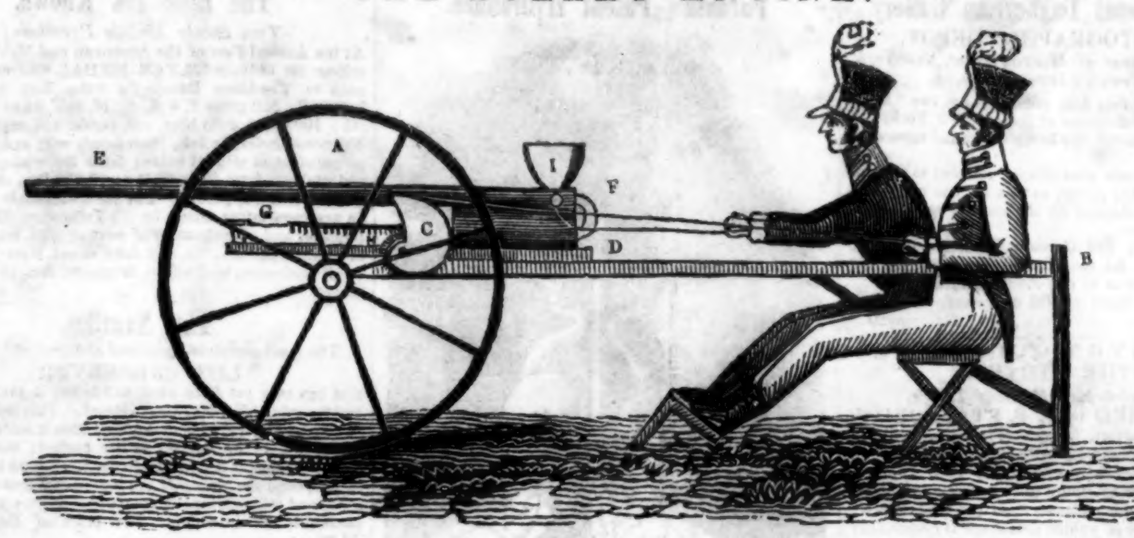
It is rumored that the Creek Indians have tendered the services of 2000 of their Warriors to act with the Americans against Mexico. We don't want them.

Since the steamer Oregon got *racked* on the rocks of *Hell-gate*, the steamer Ben Franklin has been reported hard aground, lying across the stream at *Devil's Island*, on the Ohio.

Iron carriages, built entirely of iron, are becoming very fashionable in Paris. They are much admired for their strength, lightness and elegance.

General Scott has been appointed to the command of the Army of Occupation in Texas, with orders to proceed immediately to the sc[illegible] of war.

THE BULLET ENGINE.



Explanation etc.—In another column we have explained the practicability of projecting balls in rapid succession by hand power, and shall probably make it appear eventually, that gunpowder is not so indispensable an article in warfare, as has been generally supposed. We in fact want no easier task than that of proving, that by the aid of a suitable machine, a man of common strength can project four or five bullets with the ordinary force of rifle balls, in less time than he can load and discharge an ordinary musket. We have here introduced the plan of a machine to be operated by two men, for projecting rifle balls. It consists in part of a pair of light cart-wheels A, four feet in diamater, and placed four feet apart. From the centre of the axle, a pole extends horizontally to B, where it connects with a post, the bottom end of which being sharp, is occasionally driven into the ground for the purpose of holding the machine fast: and the post is supported by a brace, which extends from that to the pole. A small platform is placed on the axle, and on this are placed, parallel, a pair of small cylinders, 18 inches long, and extending from C, to D. On these cylinders rests a gun barrel E, F, six feet long. The cylinders are finished as compression air-pumps, and have pistons fitted, the rods of which extend, when drawn out, to G. These rods have rack-teeth, into which work the teeth of a small geer wheel H. On the shaft of this geer wheel, is mounted a snail-shaped cam D, from the periphery of which, a rope or line extends back to the hands of the operators. It will be understood, that this cam turns the geer wheel, which moves the rod and piston for the purpose of compressing air within the cylinder; and as the resistance of the air increases, the peculiar shape of the cam enables the operator to overcome the resistance. From each cylinder, a curved tube F. D, extends to the breech of the gun. These tubes being united at F, serve as air chambers to receive the compressed air. On the breech of the gun is mounted a hopper I, for containing a quantity of bullets. A cylindrical valve J, passes horizontally through the breech of the gun and has an aperture through it, corresponding to the size of the calibre. This valve, when in a certain position, receives a ball into its aperture from the hopper; and by a change of its position, the aperture is brought in contact with the air chamber in one direction, and at the same time, in contact with the hollow of the gun, thus allowing the ball to escape. From one end of this valve or plug, an arm projects downward, and is connected by a branch line, to one of the cam ropes mentioned above; so that when the air is compressed by the piston, the valve is opened by the same motion, and a discharge is produced. The valve is returned to its former position by a spring, and receives another ball from the hopper. If the valve is connected to both cam ropes, a discharge will occur at each pull of each man; but it is preferred to have the air compressed by the exertion of both men, at each discharge. The calibre of each cylidner is about double in size to that of the gun. The two piston rods are connected by a cord which is attached to the end of each, passing over pulleys in front, so that when one is drawn back by the operator, the other is drawn forward. This apparatus is not so heavy but that two men can perform a march with it with ease; and when its operation is required in action, the delay of preparation will not exceed one minute. The discharges may be about thirty per minute.

Wait a Little Longer.

There's a good time coming, boys,
A good time coming:
We may not live to see the day,
But earth shall glisten in the ray
Of the good time coming.
Cannon balls may aid the truth,
But thought's a weapon stronger;
We'll win our battle by its aid:
Wait a little longer.

There's a good time coming, boys,
A good time coming:
The pen shall supersede the sword,
And right, not might shall be the lord,
In the good time coming.
Worth, not birth, shall rule mankind,
And be acknowledged stronger;
The proper impulse has been given;
Wait a little longer.

There's a good time coming, boys,
A good time coming;
War in all men's eyes shall be
A monster of iniquity,
In the good time coming.
Nations shall not quarrel then,
To prove which is the stronger;
Nor slaugter men for glory's sake;
Wait a little longer.

There's a good time coming, boys.
A good time coming:
Hateful rivalries of creed
Shall not make their martyrs bleed
In the good time coming.
Religion shall be shorn of pride,
And flourish all the stronger;
And Charity shall trim her lamp,—
Wait a little longer.

There's a good time coming, boys,
A good time coming;
And a poor man's family
Shall not be his misery,
In the good time coming.
Every child shall be a help,
To make his right arm stronger;
The happier he, the more he has:—
Wait a little longer.

There's a good time coming, boys,
A good time coming;
Little children shall not toil
Under, or above, the soil,
In the good time coming.
But shall play in healthful fields,
Till limbs and mind grow stronger;
And every one shall read and write;—
Wait a little longer.

There's a good time coming, boys,
A good time coming;
The people shall be temperate,
And shall love instead of hate.
In the good time coming.
They shall use, and not abuse,
And make all virtue stronger,
The reformation has begun;—
Wait a little longer.

There's a good iime coming, boys,
A good time coming;
Let us aid it all we can,
Every woman, every man,
The good time coming.
Smallest helps, if rightly given,
Make the impulse stronger;
'Twill be strong enough one day;—
Wait a little longer.

Trifles.

How is it, o'er the strongest mind,
That trifles hold such sway?
A word—nay, e'en a look unkind,
May darken all life's day.
Oh, in this world of daily care,
The thousands that have erred
Can any hardship better bear
Than they can bear a WORD.

The man who with heroic heart
Can stern misfortunes meet,
Unflinchingly perform his part,
And struggle 'gainst defeat
With faith unaltered—yet can lose
His temper e'en for aught
Which falls not as his would choose,
Or proves not what he sought.

And woman can forgive a wrong
Which casts her on the world
Far better than forgive the tongue
That may some sneer have hurled;
A thousand times prefer a lot
As hard as want deplores,
Than feel or think herself forgot
By one her heart adores!
Alas, the human mould's at fault,
And still by turns it claims
A nobleness that can exalt
A littleness that shames!
Of strength and weakness still combined,
Compounded of the mean and grand;
And trifles thus would shake the mind
That would a tempest stand.
Give me that soul-superior power,
That conquest over fate,
Which sways the weakness of the hour,
Rules little things as great;
That lulls the human waves of strife
With words and feelings kind,
And makes the trials of our life
The triumphs of our mind.

New Paper Mill.—Carter and Sons of Baltimore have added to their paper mills on the Little Elk River, a new stone mill 75 feet by 46, and four stories high, with a machine house 67 by 35, It is expected to turn out 12000 lbs. of paper per week.

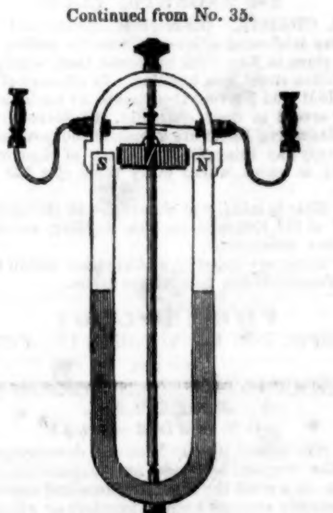
The American Mechanic.

Among all the varieties that diversify the human race, there is no more honorable character than the American mechanic. Free in his heart, and unwarped in his prejudices; elevated above the condition of that inferior political grade, in the same calling in the old world, removed from the seductive allurements of vice; dependent upon his exertions for his support, and feeling industry essential for the support of those who live by his energies; alwarys able to procure without difficulty the shelter of a convenient home, and an abundant supply of good things for the physical man, he charges himself without anxiety with the expenses of a family, and enjoys that measure of happiness, to be had only amidst the duties and employments of a domestic life. Unshackled in thought, he forms and utters his opinions at pleasure, sees himself a guardian of the institutions of his country, and one of the governors of a mighty empire; he knows that the common weal is committed partially to his care and must be influenced by his virtue and intelligence. He is, in fact, one of Nature's noblemen; and if, with such advantages and inducements, he does not improve by reading and reflection, and fit himself for his high and dignified duties; if he is not independent in his mind and honorable in his feelings; if he is not a virtuous man, the blame rests on himself. It is the peculiar merit of our institutions that they are all moulded and fashioned by the people; it therefore becomes the duty of the people to prepare themselves for the resulting obligation to fashion them wisely. It is to this conviction we would bring every American mechanic; we would have him feel the important influence which he must exercise upon the destinies of his race. We would have him unstertand that he is liable to be called upon to aid in administering the government, and merit the confidence of his fellow men in their honorable service. we would not have him limit his range of thought to the mechanical rules of his particular employment, or circumscribe the movements of his mind to narrow channels, but labor to acquaint himself with the whole science of government, and every thing connected with the nature and business of men; for without this, he will find himself powerless to resist the intrigueing and disciplined politician. The American mechanic, from whose labor the wealth and convenience of society recognize its pride and defence, if he is an American in feeling and interest, and if he employs his time as he ought to employ it, between his professional duties and the maintainance of his family—the improvement of his mind, and the exercise of his political rights—is the highest order of man. In this country industry and thrift are not derogatory, but are regarded as merits; and strange as it may sound in a foreign ear, tne idler can hardly maintain a position in society. Property can only be accumulated by individual effort. Our institutions guard individual rights equally with the public safety, and protect the enjoyment of the humble, alike with the possessions of the fortunate. The independent American mechanic, living under, and himself sustaining these liberal institutions; cursed with "neither power nor riches," free to think, and free to act; occupies a position in the scale of man which has no parallel in the old world.

The Kentucky Giant.—Mr. James Porter—no very near connexion of ours—is keeping a public house in Louisville, Ky., near the river. He is probably the largest, if not the heaviest man in the world, and is still growing. His dimensions, last reported, were eight feet six inches in height, and well proportioned. When he reaches 9 feet 4 inches, and well filled out—as of course he will be, living in his own hotel,—he will be a good specimen to send to Russia, or some other foreign country, as ambassador.

Galvanism.

Continued from No. 35.



Page's Revolving Magnet.—In this machine, the direction of the current is changed by means of a pole-changer in a manner similar to that used in the revolving rectangle, described in our last number: but instead of the rectangle, a straight horizontal magnet is mounted on the vertical shaft or axle, between the poles of a vertical permanent magnet. This horizontal magnet is enclosed in a helical coil, as represented in the cut, and the two ends of the wires which constitutes the coil, are soldered to the two segments of the pole-changer, so that by means of the two silver springs which press on these segments, the poles of the horizontal magnet are reversed twice during each revolution. These segments are so adjusted, that at the instant that the south pole of the electro-magnet passes the north pole of the permanent magnet, the direction of the current in the helix, and consequently the poles of the electro-magnet are reversed, and are repelled from the poles to which they had been attracted, and are attracted by the opposite poles of the permanent magnet. In this way a rotary motion of 10,000 or 12,000 revolutions per minute may be produced. The springs are connected to wires which pass through the sides of the arch, (but insulated from it,) and extend to the two cups, which are connected by other wires to the poles of a battery. This instrument, though a very neat article for experiments, or illustrations, is not so powerful as one similarly constructed, but with a U-shaped electro-magnet made of the same breadth, as the permanent magnet, and adjusted in an inverted position, so that in its revolutions, the poles thereof may pass very close to those of the permanent magnet. A similar instrument is commonly used for producing shocks, the preparation and process of which we shall fully describe in a future, if not in our next number.

(To be continued)

Motion of the Human Eye.—It has been satisfactorily demonstrated, that *light*, in its progress through space, consists of minute waves; and that those waves vary in extent, according to the color of the light. Those of red light are so very small that more than forty thousand of them are contained in one inch of space. Light is shown to move at the rate of 200,000 miles in one second of time; consequently the number of waves which the human eye encounters in one second of time, while looking at a luminous red object, is no less than 8,000,000,000! It is moreover proved philosophically, that each of these waves, produces a distinct vibration of the retina of the eye: consequently the trembling vibrations of this retina, are equal to 480,000,000,000! per minute!

Natural Philosophy.—All gasses, or aeriform substances are elastic, being capable of being reduced into a smaller compass by pressure and of expanding again to their usual volume whenever the pressure is removed. Atmospheric air has been compressed into 1-128th part of the space that it usually occupies: but the pressure requisite to effect this, is nearly 2000 lbs. per square inch. The fluidity of the gasses is in consequence of the matter of caloric being interposed between the particles of the fluid. Should all the caloric be extracted from the gaseous fluids they would become solid. All substances which are soft and ductile, owe these properties to the combination of caloric. Mercury, which is fluid in ordinary temperature, becomes solid at 40 degrees below the zero of Fahrenheit, and takes the gaseous form, light as air, at 660 degress above. Many kinds of earth, as well as the metals have been rendered fluid, and some of them gaseous or aeriform, by the combination of caloric, being subjected to excessive heat; and it is not improbable that all the solids of which the earth is composed, are susceptible of the same chemical transformation.

State Prisons.—In Mr. Robinson's Report to the legislature of Massachusetts on the Charlestown Prison, he remarks "I am convinced that convicts are men, and not always the worst men in the world; and whatever improvements in prisons may be proposed, I am only desirous that humanity and the best interests of the convicts should prevail." How beautifully such sentiments contrast with the tyranny and barbarism practiced under the sanction of government in the Sing-sing prison, where the convicts are allowed only hard blocks of wood for pillows on which to rest their weary heads after the fatiguing toil of the day. We hope the press will speak boldly and freely on the subject of the proper treatment of convicts, till the relics of barbarism shall be dispelled.

Steaming.—A correspondent enquires whether there is anything which can be put into the water used for steaming wood, which will make it more elastic and pliable than pure water? We have known several *blockheads* become highly elastic, and somewhat suple withal, by having gin, or brandy, added to their steaming fluid. Perhaps there would be no harm in trying the experiment with other kinds of timber.

Things in America.—This country has a frontier line of more than 10,000 miles. We have a line of sea coast of nearly 4,000 miles, and a lake coast of 1200 miles. One of our rivers is twice the size or length of tha Danube, the largest river in Europe. The State of Virginia is one-third larger than England, and the territory of the United States is capable of sustaining a population greater than that of all the kingdoms of Europe collectively, and with vastly better accommodation at that.

Immense Wealth.—Prince Esterhazy, a hungarian lord, is represented to be the richest man in the world. He owns 130 villages, 40 towns, and 34 castles. Among his servants are 2500 shepherds. He is a feudal lord and holds the power of life and death over his vassals.

The Power of Kindness.—A small volume under this title, by C. Morley, has been published with in the week past, by Wellman, 116 Nassau st. It contains a variety of brief and interesting articles and should be read by every one who has a desire for an amiable disposition. The price is only 12½ cts.

Brief Suspension.—Having important business which requires our presence at Washington next week, and having no assistant who can manage the scientific department of this paper, during our absence, our readers may not be alarmed if its publication should be suspended for one week.

The Bible in France.

"Two of our friends reached a certain commune in the department of the two Sevres. As usual, one of them took the right, and the other the left side of the street, by which they entered the place. Then calling at every house, they offered a Bible or a New Testament for sale. In two houses, nearly opposite each other, they were detained by two persons who were anxious to gain some information from them. Both of them were equally in dread of Protestants. Thus it happened that both the colporters were engaged at the same time in giving similar information to two different persons. They endeavored, more especially, to prove to them that mere forms of religion, and the dictates of man, are of no avail for salvation, but the religion of Jesus Christ alone, as set forth in the Gospel. Hence it became necessary, they said, to leave the Pope, and Luther, and Calvin, wholly out of the question, and to look only to the Savior. One of the interrogators was taken aback, and proposed to the colporter to accompany him to the Cure, in order to hear his opinion upon what had been already advanced; a proposal to which he, as well as the other colporter, who had by this time joined them, willingly acceded. On coming before the Cure, he listened attentively to what they had to say, but soon appeared anxioas to cut short the conversation, which he attempted to do by telling our friends that they were acting contrary to the laws. and that they were Protestant ministers in disguise, whose real object was to seduce Catholics from the true faith! 'What!' exclaimed one of the colporters, 'minsters, men of learning?—No, no, sir, we are simple weavers, poor artisans, whose minds and hearts the Lord, in His mercy, has opened to understand His Holy Word, and who are desirous of enabling their fellow-men to partake of the same blessing. But with permission, let us see what it is that you object to in the books which we are selling.' Upon this the priest began to quote a number of passages taken at random from the Bible, but which were so greviously mutilated by him, that the colporter wildly endeavor to set him to rights by referring to the passages themselves, and reading them out of the copy which he held in his hands. Finding himself outwitted, the Cure became more and more irritated, and at length concluded by turning the colporters out of doors. In the mean time, the party at whose suggestion the conversation had taken place retired with them, and in fact felt somewhat ashamed at the conduct of the Cure. 'You do not seem hurt at the treatement you have just experienced,' said he, to the colporters, 'and all your words were as sweet as honey. It is precisely what stands in the New Testament that has worked up the Cure to such a pitch of anger, and yet it appears very singular. Well,' adhe, 'after all, I have a great mind to buy the New Testament; But, before I do so, let me, if you please, make one more trial. Come along with me to the schoolmaster: he is a man of learning, and if he silences you, I shall take it for granted that you are in the wrong.' This new proposal was accordingly accepted. The schoolmaster listened, at first in profound silence, but in a short time his fury exceeded that of the Cure. 'The prohibition of the Pope,' said he, 'is the prohibition of God himself. The Pope has addressed a letter to all the Catholics, forbidding them to read your Bibles. Betake yourselves away, then, you and your wicked books.' It was in vain that our friends sought to enlighten the poor fanatic; but their want of success in this respect proved a blessing to the individual at whose instance they had waited on the Cure and the schoolmaster. 'As for me,' cried he, when they had quitted the house of the latter, 'I am more than ever convinced that both of them are mistaken, and that you alone are in the right, or rather that it is your book that is so; and moreover, that it is the book of God, since those who read it speak and act like you. I will at once purchase a copy; and I earnestly pray to God to enable me, by His grace, to believe what you believe, and to act as you act."—*Selected.*

Nature a Proof of God's Existence.—It is sweet to be alone, with nature's work's around; where God has traced in clearer lines than ever priest or prophet's page contained, the proofs of attributes divine; where earth and heaven outstretch their ample page for man to read. The humblest floweret of the vale, if viewed aright, will prove to skeptic man what never pagan rite, or papal bull, or mystic creed has proved, that God exists in wisdom power and love—in all supreme. For what, but wisdom infinite, could from the simple leaf with varied hue, and filled with countless tubes, that draw from earth's dark clods a shapeless mass, dissolved and purified, till matter, mute and dead, revives, and springs to life, and crowns the vale with flowers and sweet perfumes. Can man such simple work perform? The skilful hand may form a mimic rose, with stem and leaf o'erspread with colors false, and borrowed odors sweet. But let him bid the organs play, its leaves unfold, and yield him incense, fresh and sweet at morn and eve, as nature offers up to God. The rash presumptuous man would stand abashed, and his own nothingness confess, compared with HIM, whose voice from nothing called to life, and clothed with beauty all that lives. —*Selected.*

Admonition.—Never be angry with any person or circumstance, nor on any occasion: for anger is ever adverse to a free exercise of reason and discretion, and its tendency is only injurious to the person who indulges it, whatever effect it may have on others. The most irritable person may overcome the propensity by suppression and counteraction, and will thereby obtain a victory of more importance to himself than the acquisition of wealth or honors of the world.

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Hotchkiss & Co., 13 Court street, Boston.

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New Jersey.—J.L. Agens, No. 1 Commerce street, Newark; J. M. Francis, Hoboken; Alfred Walling, Keyport; Lees Garside, Corner of Main and Market sts, Paterson.
Maryland.—S. Sands, 122 Baltimore st., Baltimore.
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He has the honor of referring, by permission, to Hon. Edmund Burke, Commissioner of Patents; Hon. H. L. Ellsworth, late ditto: Judge Cranch, Washington, D.C.; Hon. R. Choate, Massachusetts, U. S. Senator; Capt. H. M. Shreve, Missouri; H. Knowles, Machinist, Patent Office. april 2.3m*

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By J. M. SCRIBNER, A. M.

Recently published, and for sale by HUNTINGTON & SAVAGE, 216 Pearl st., price $1,12 to $1,50. jny1

General Patent Agency.

THE subscriber has established an agency at his Warehouse, 12 Platt street, New York, for the protection and general advancement of the rights and interests of Inventors and Patentees.

The objects of this agency are more particularly to aid and assist Inventors and Patentees in effecting sales of their inventions and of goods and wares made therewith—and also for the sale and transfer of Patent Rights.

Arrangements have been made with a lawyer familiar with the Patent Laws, who will attend to the legal branch of the business upon reasonable terms. Satisfactory references will be given. Applications may be made to the undersigned personally, or by letter, *post-paid.*

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apr16 3m* *General Patent Agent.*

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MANUFACTORY, 189 Broadway, N. Y. nov9.

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They are built in a neat and compact form, and printed directions accompany each machine, which will enable any mechanic to put them in operation; as a general rule the different numbers are adapted to different sized wheels, as follows;

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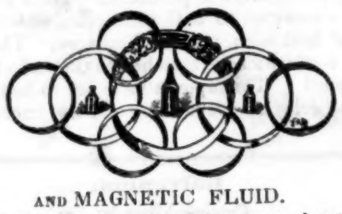

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PHRENOLOGY.

PROSPECTUS OF VOLUME IX., FOR 1847, OF THE

AMERICAN PHRENOLOGICAL JOURNAL.

O. S. FOWLER—EDITOR.

To reform and perfect Man—to develope, by culture, the original beauties and capabilities of his nature—is a work the most arduous and exalted that can possibly engage human intellect or effort. To do this effectually, however, his nature must be known; and since Phrenology and Physiology imbody his entire constitution, there is no way by which we can so easily become acquainted with ourselves, or for what occupation in life we are best qualified, as by the aid of these sciences.

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Each number will analyze one or more of the phrenological organs, both singly and in their various combinations, illustrated by engravings, showing their location. Each number will also contain the Phrenological developments and character of some distinguished individual, accompanied by their likeness. This department will give just that *practical* view of Phrenology which is required in order to fully understand its proper application.

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To know and obey those laws of life and health, unfolded by these sciences, constitutes the main basis and superstructure of talent, virtue, and happiness. This department will also be illustrated by engravings.

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Will receive its due attention; and our readers will receive, through this medium, all that is new, interesting and important.

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N.B.—All letters directed, post-paid, to S. B. MERKEL, Founder-machinist, millwright, draughtsman and Engineer, Philadelphia, Pa. feb11.

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" Chicken,	18d	Veal Pie,	6d
" Duck,	18d	Beef Steak Pie,	6d
" Beef,	6d	Chicken Pie,	12d
" Pork,	6d	Mush and Milk,	6d
" Veal,	6d	Rice and Milk,	6d
" Lamb,	6d	Lamb Pot Pie,	6d
" Pig,	12d	Fried Fish,	6d
Boiled Chicken,	12d	Fried Clams,	6d
" Mutton,	6d	Ham and Eggs,	12d
" Corned Beef,	6d	Chicken Soup,	6d
" Pork,	6d	Beef Soup,	6d
" Fish,	6d	Coffee,	6d

Dessert.

Suet Pudding	6d	Mince Pie,	6d
Indian Pudding,	6d	Apple Pie,	6d
Rice Pudding,	6d	Peach Pie,	6d
Plum Pudding,'	6d	lum Pie,	6d
Bread Pudding,	6d	u mpkin Pie,	6d
Apple Dumplings,	6d	Custard Pie,	6d

Breakfast and Tea.

Beef Steak,	6d	Hot Corn Bread,	6d
Veal Pie,	6d	Indian Cakes,	6d
Mutton Chops,	6d	Boiled Eggs,	6d
Ham and Eggs,	12d	Fried Eggs,	6d
Fried Tripe,	6d	Toast,	6d
Fried Sausages,	6d	Hot Muffins,	6d
Fried Fish,	6d	Hot Rolls,	6d
Fried Clams,	6d	Tea,	3d
Fried Liver,	6d	Coffee,	3d

AT HENRY ROWNTREE'S old established *Tool Store*, at the Corner of Chambers and Chatham streets, Mechanics, Farmers, &c., will find an assortment of good Tools, suitable for almost every branch of trade.

H. R. feels obliged to his many customers, of every class, for their past patronage and hereby assures them that no pains shall be spared to procure the best articles in all variety.

H. R. has a greater part of his goods made expressly for him, and Mechanics, &c., may place confidence in them, having had the gold medal awarded him, at the late Fair, for the best tools.

First rate Razors; Pen and Pocket Knives; Table Knives and Forks, &c.

☞ Remember, at the corner of Chambers and Chatham streets. dec26

W. N. SEYMOUR & Co.

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Cabinet Trimmings. Tin and wooden ware.
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Sole Agents, for this city, for J. A. Fay's patent Morticing Machine.

THE INVISIBLE DOOR SPRING.

W. N. S. & Co. have taken the exclusive agency, for this city, of Ellis's Invisible Door Spring, which commands a ready preference over all others, and has made arrangements to have them put on and adjusted to the doors of those who may require them; Mr. Shaffer, 75 Warren st, is engaged to superintend this department, and will promptly attend to all orders in this line.

Dec. 25.

Locke's Portable Shower Bath.

THE subscriber has the satisfaction to announce to the public, that he has perfected, and is prepared to furnish at short notice, a portable shower-bath, far superior in utility and convenience of management, to anything of the kind hitherto offered. It constitutes a light and genteel article of furniture for a bed-chamber, and so perfectly constructed, that either a lady or gentleman can at any moment enjoy a copious shower without the id of servants, and withodt having a drop of the water sprinkled on the carpet or floor. And by a slight change in a part of the apparatus, the same may be converted to a steam-bath, either plain or aromatic. These baths are manufactured and may be examined at No. 31 Ann st. JOHN LOCKE.

Dec 4.

ILLUSTRATED BOTANY.

Edited by JOHN B. NEWMAN, M. D.

Circumstances make the man, and very often, as in the present case, the book. For years there has been a steadily increasing interest felt for the vegetable kingdom. Latterly this taste has been partially gratified by the litera rymagazines, which owe their popularity, in a great measure to the beautiful flower prints that adorn them. One specimen a month, however, is not enough, nor is it required in such connection. A work relating exclusively to the subject, is wanted by the public, and this want, the present enterprise is intended to supply.

Preceded by a short introduction on Physiology, and a view of the Natural and Linnæan Systems, the work will be devoted to a separate consideration of each plant.—Together with our own information, we shall draw on the standard works on Chemistry, Botany, and Medicine, combining every useful item of knowledge, and without lessening its value, present it in a concise and pleasing form. Obtaining our supplies from the same sources as the bee, we hope to *secrete* as elegant a sweet for the mind, as it does for the body. The properties of each, more especially the medicinal, will be confirmed, in a great number of instances, by personal experience. To this will be added its history; its meaning in the language of flowers; and poetry, either original or selected from the gems of the children of song.

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